

RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/732,123 Confirmation No.: 9609  
Applicant : Moris M. AMON  
Filed : December 7, 2000  
TC/A.U. : 1771  
Title : "Plasma-Treated Porous Film"  
Examiner : Hai VO  
Docket No. : 10242  
Customer No. : 23455 Date: August 25, 2003

**MAIL STOP AF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE UNDER 37 C.F.R. § 1.116**

Sir:

Please consider the remarks below in response to the final Action mailed June 24, 2003.

Claims 1-11 are all the claims pending in the application.

The following rejections, presented at Section Nos. 3-6 of the final Action, represent the remaining outstanding rejections:

claims 1-4 and 6 are rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent 6,022,902 to Koontz;

claims 1-4 and 6 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent 5,340,672 to Kubota, *et al.* ("Kubota");

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claims 1-4 and 6 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly obvious over publication No. JP 2208333 ("JP '333"); and

claim 5 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Koontz or Kubota or JP '333 in view of U.S. Patent 5,837,365 to Chung.

Applicant respectfully traverses each of the rejections.

Applicant's claims are not intended to include within their scope any and all porous film layers that have been plasma-treated in any and all ways. Instead, the present claims are specifically directed to porous film layers that (i) have a pore volume fraction of at least 0.40 and (ii) have been plasma-treated to make the pore space thereof more hydrophilic and to provide the film layer with: (a) a receding contact angle for water of less than 35° and (b) a pore accessibility for water of at least 0.60.

The prior art references do not *inherently* possess the claimed receding contact angle and pore accessibility for water because the prior art references do not *necessarily* possess the claimed receding contact angle and pore accessibility for water. Applicant kindly directs the Examiner's attention to the Rule 132 Declaration of Shifang Luo, which has been submitted herewith. Mr. Luo's Declaration addresses two of the issues raised by the Examiner in the Response to Arguments, Section No. 8 (page 3), of the final Action.

First, as explained by Mr. Luo, all of the prior art references do not disclose the same plasma discharge.

Second, Mr. Luo has shown that as a result of using different plasma-treating processes, or as a result of using different variables within the same plasma treatment process, the resulting plasma-treated film layers may have properties that fall within the presently claimed ranges or they may have properties that fall outside the presently claimed ranges. Due to the many different ways, and different variables within the different ways, of plasma-treating a film, it is

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not *necessarily* true that all plasma-treated film layers will meet the requirements of the present claims. Varying one or more of the variables will vary the properties. Therefore, the prior art references cannot *inherently* possess the claimed receding contact angle and pore accessibility for water, as "inherently" has been defined in the patent law.

In this regard, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference (*see, Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); MPEP §2131). The identical invention must be shown in as complete detail as is contained in the claim [*see, Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)].

As the Examiner has pointed out, Koontz, Kubota, and JP '333 do not expressly disclose the claimed receding contact angle and pore accessibility for water, and JP '333 also does not expressly disclose the claimed porosity. As Applicant and Mr. Luo have shown, none of Koontz, Kubota and JP '333 inherently discloses the claimed variables. A rejection based on an allegedly inherent element(s) must satisfy the requirement that the prior art necessarily possesses the inherent element. As explained in *In re Oelrich*, 212 USPQ 323, 326 (CCPA 1981) [quoting *Hansgirk v. Kemmer*, 40 USPQ 665, 667 (CCPA 1939)], inherency may not be established by probabilities or possibilities. The prior art references do not *inherently* possess the claimed receding contact angle and pore accessibility for water because the prior art references do not *necessarily* possess the claimed receding contact angle and pore accessibility for water. Therefore, the §102 aspects to the present rejections must be reconsidered and withdrawn.

Turning to the third issue raised in the final Action, the Examiner asserts that "nothing in the claims is specific about the conditions with which the plasma is operating to provide the film having a receding contact angle and pore accessibility for water set forth in the claims." Applicant respectfully submits that this is not a valid reason for denying the patentability of the present product claims.

The present product claims are specifically directed to porous film layers that (i) have a pore volume fraction of at least 0.40 and (ii) have been plasma-treated to make the pore space thereof more hydrophilic and to provide the film layer with: (a) a receding contact angle for

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water of less than 35° and (b) a pore accessibility for water of at least 0.60. It does not matter *how* the film layers have been plasma-treated -- it only matters that the plasma-treated film layers have (a) a receding contact angle for water of less than 35° and (b) a pore accessibility for water of at least 0.60. The claims, moreover, are enabled by the disclosure in the present specification of specific embodiments that achieve the invention (Applicant refers to pages 9-12 of the specification and Table 3).

Finally, for a rejection under 35 U.S.C. § 103(a), the prior art must suggest to one of ordinary skill in the art that the prior art should be modified in order to arrive at the claimed invention. The mere possibility that the prior art may be modified so as to arrive at the claimed invention does not render obvious the invention unless the prior art suggested the desirability of the modification. The suggestion to modify must be "clear and particular" [*see, In re Sang Su Lee*, 2002 U.S. App. LEXIS 855 (Fed. Cir. 2002); *Winner Int'l Royalty Corp. v. Ching-Rong Wang*, 53 USPQ2d 1580, 1586-1587 (Fed. Cir. 2000)].

The prior art, including Koontz, Kubota, and JP '333, provides no motivation at all for a person of ordinary skill in the art to prepare the presently claimed plasma-treated porous film layer having the presently claimed properties versus plasma-treated porous film layers having properties outside the scope of the present claims. The silence of the prior art references concerning pore accessibility and water contact angles precludes them from being able to provide the necessary motivation to steer a person of ordinary skill in the art to the present invention.

It is only with the benefit of Applicant's disclosure that a person of ordinary skill in the art will (i) *necessarily* prepare the presently claimed plasma-treated porous film layer having the presently claimed properties and (ii) appreciate the advantages of the presently claimed plasma-treated porous film layer having the presently claimed properties.

Furthermore, it is not necessary for Applicant to demonstrate any criticality for the claimed pore accessibility and water contact angle.

As explained by the court in *In re Antonie*, 195 USPQ 6, 8 (CCPA 1977), the discovery of an optimum value of a variable in a product is normally obvious (*see*, the paragraph spanning

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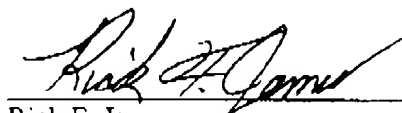
pages 8 and 9 of the Antonie decision). One exception is in cases where the results of optimizing a variable, which was known to be result effective, were critical or unexpectedly good. A second exception is where the parameter optimized is not recognized to be a result-effective variable. Thus, under the second exception, it is not necessary to demonstrate criticality or unexpected results if the parameter optimized is not recognized to be a result-effective variable.

The claimed pore accessibility and water contact angle are examples of this second exception. Neither the pore accessibility nor the water contact angle is recognized by the prior art as a result-effective variable. In short, it could not have been obvious to optimize the films of the prior art by selecting the presently claimed pore accessibility and water contact angle if the prior art was silent about and did not at all mention these variables.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: August 25, 2003



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